

10/584882

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : National Phase Entry of PCT/EP2004/014713
Applicant : Fariba HATAMI et al
Filed : Herewith
TC/A.U. :
Examiner :

Docket No. : 3367-103
Customer No. : 6449
Confirmation No.:

INFORMATION DISCLOSURE STATEMENT

Director of the United States Patent
and Trademark Office
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with applicants duty of disclosure under 37 C.F.R. 1.56, enclosed is a copy of the International Search Report in the corresponding international application. The relevance of the references is noted in the International Search Report and copies of the references are provided herewith for Examiner's review. Also enclosed are relevant documents know by the applicants.


For DE 199 32 880 A1 enclosed is the English Abstract of equivalent application WO00/17094.

U.S. Patents 6,984,850 and 6,936,858 are the English equivalent of DE 199 39 471A1.

A number of other references were cited in companion application U.S. Serial Number 10/574512.

Please charge any fee deficiency or credit any overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

By 
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RBM/cb

INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Complete if Known	
				Application Number	New Application
				Filing Date	Herewith
				First Named Inventor	Fariba HATAMI et al
				Group Art Unit	
				Examiner Name	
				Confirmation No.	
Sheet	1	of	4	Attorney Docket Number	3367-103

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
	1.	6,984,850		Hiroshi Nakatsu	1/10/06
	2.	6,936,858		Hiroshi Nakatsu I	8/30/05
	3.	5,952,680		Samuel C. Strite	9/14/99
	4.	5,658,825		Manijeh Razeghi	8/19/97
	5.	6,469,324		Tien Wang	10/22/02
	6.	6,535,186		Karel Havel	3/18/03
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	8.	3,740,570		Kaelin et al	6/19/73
	9.	2003/127608	A1	Shields et al	7/10/03
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	11.	5,075,743	A	Behfar-Rad et al	12/24/91
	12.	2002/0136932	A1	Yoshida	9/26/02
	13.	2003/0170927	A1	Holonyak et al	9/11/03
	14.	2002/0114367	A1	Stintz et al	8/22/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code. ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language translation is attached. AB indicates that only an English language abstract is attached.

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Sheet	2	of	4	Attorney Docket Number	3367-103

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T ⁶
		Office ³ Code	Number ⁴	Kind ⁵ (if known)			
	15.	JP	08335718 (abstract only)	A	Daido Steel Co., Ltd.	12/17/96	AB
	16.	WO	02/065520	A1	Infineon Technologies AG	8/22/02	
	17.	WO	00/17094 (abstract only)		Fascko et al	3/30/02	AB
	18.	EP	1 424 736	A1	Max-Planck...	6/2/04	
	19.	WO	99/50916	A1	Massachusetts Institute...	10/7/99	
Examiner Signature						Date Considered	

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NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²	
	20.	Chen et al., "Normal-incidence voltage-tunable middle- and long-wavelength infrared photoresponse in self-assembled InAs quantum dots", APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS, vol. 80, no. 14, April 8, 2002, pgs. 2490-2492.		
	21.	Hatami et al., "InP quantum dots embedded in GaP: Optical properties and carrier dynamics", PHYSICAL REVIEW B, vol. 67, no. 8, February 15, 2003, pgs. 85306-1- 85306-8.		
	22.	Balkan et al., "Tunable wavelength hot electron light emitter", APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS, vol. 67, August 14, 1995, no. 7, pgs. 935-937.		
	23.	Reed et al., "Three-terminal bias induced dual wavelength semiconductor light emitter", APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS, vol. 65, no. 5, August 1, 1994, pgs. 570-572.		
	24.	W. T. Masselink and Yia-Chung Chang, "Theory of the Exciton Bound to an Isoelectronic Trap in GaP," Phys. Rev. Lett. 51, 509-512 (1983)		
	25.	F. A. Kish, F. M. Steranka, D. C. DeFever, D. A. Vanderwater, K. G. Park, C. P. Kuo, T. D. Osentowski, M. J. Peanasky, J. G. Yu, R. M. Fletcher, D. A. Steigerwald, M. G. Craford, and V. M. Robbins: "Very high-efficiency semiconductor wafer-bonded transparent-substrate (Al _x Ga _{1-x}) _{0.5} In _{0.5} P/GaP light-emitting diodes", Appl. Phys. Lett. 64, 2839-41 (1994)		
	26.	N. F. Gardner, H. C. Chui, E. I. Chen, M. R. Krames, J-W. Huang, F. A. Kish, S. A. Stockman, C. P. Kocot, T. S. Tan, and N. Moll: "1.4x efficiency improvement in transparent-substrate (Al _x Ga _{1-x}) _{0.5} In _{0.5} P light-emitting diodes with thin (≥ 2000Å) active regions", Appl. Phys. Lett. 74, 2230-32 (1999)		
	27.	W. T. Masselink, and Martin Zachau: "In _{0.35} Ga _{0.65} P light-emitting diodes grown by gas-source molecular beam epitaxy", Appl. Phys. Lett. 61, 58-60 (1992)		
	28.	F. Hatami, W. T. Masselink, L. Schrottke, J. W. Tomm, V. Talalaev, C. Kristukat, and A. R. Goni: InP quantum dots embedded in GaP: "Optical properties and carrier dynamics", Phys. Rev. B 67, 85306-14 (2003)		
	29.	Goni et al, "Electronic Structure of self-assembled InP/GaP quantum dots from high-pressure photoluminescence", Physical Review, B, THE AMERICAN PHYSICAL SOCIETY, vol. 67 pgs. 075306-1- 075306-5, 2003.		
	30.	W. T. Masselink, F. Hatami, G. Mussler, and L. Schrottke: "InP quantum dots in (100) GaP: Growth and luminescence", Materials Science in Semi-conductor Processing 4, 497-501 (2001) (Proceedings of the International Conference on Materials for Advanced Technologies (ICMAT 2001), 1-6 July 2001, Singapore)		

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Sheet	4	of	4	Attorney Docket Number	3367-103

	31.	Hatami et al., "Radiative recombination from InP quantum dots on (100) GaP", APPLIED PHYSICS LETTERS, vol. 78, no. 15, 9 April 2001, pgs. 2163-2165.	
	32.	Walter et al., "Room-temperature continuous photopumped laser operation of coupled InP quantum dot and InGaP quantum well InP-InGaP-In(AIGa)P; InAlP heterostructures", APPLIED PHYSICS LETTERS, vol. 79, no. 13, 24 September 2001, pgs. 1956-1958.	
	33.	Micic et al., "Highly efficient band-edge emission from InP quantum dots", APPLIED PHYSICS LETTERS, vol. 68, no. 22, 27 May 1996, pgs. 3150-3152.	
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